

STATE OF ALASKA

DEPARTMENT OF FISH & GAME

JAY S. HAMMOND, Governor

HABITAT
415 Main St. #208
Ketchikan, Alaska
99901

October 9, 1978

32° SCAR L
58.

Mike Novy
IDT Biologist
U. S. Forest Service
313 Federal Bldg.
Ketchikan, Alaska 99901

RECEIVED USFS			
OCT 10 1978			
FS		DEFS	
PIO		R.F.F.	
AO			
ENG		SAFI	
PLNG		COMP	
REL			
FEW			
TRNG			

Dear Mr. Novy:

Re: Trocadero 103-60-75

The Department has reviewed the proposed logging Unit #1 on Trocadero Creek. We have discussed the Unit in relationship to temperature sensitivity and have calculated a temperature increase based on Sheridan's formula and the stream data we have on file. Sheridan's formula is $T = \frac{A \times H \times 0.000267}{D}$ where:

- T = Predicted change in temperature (°F)
- A = Surface area of stream exposed in square feet (length x width)
- D = Discharge in cubic feet per second
- H = Amount of heat absorbed in British Thermal Units per square foot per minute
- .000267 constant converting discharge to pounds of water per minute

Based on Bob Larson's survey work and the unit layout, we have calculated a temperature change as follows:

$$T = \frac{A \times H \times .000267}{D}$$

$$T = \frac{(3500' \times 15') \times 4.58 \times .000267}{5}$$

$$T = 12.84^\circ F = 9.8 \text{ where } H = 4.58 \text{ is calculated}$$

From a travel time of .75 feet per second based on Larson's velocity measurement of 1.2 ft./sec. on a riffle near the mouth, the discharge was estimated at 5 CFS based on Larson's measurement of 11 CFS at the mouth (8/18/77).

$$51.6 \times 9.8 = 61.4 \quad \text{BASE} = 60^\circ$$

SHOULD BE 3.5

Mike Novy

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October 9, 1978

The USFWS Stream Catalog Special Scientific Report 465 has temperature data for 1950, 1951, 1952 and 1953. August temperatures for this period averaged 51.6°F; for September, 49.6°F; and for October 44°F. Applying the predicted temperature increase to the average temperature for August would result in a temperature of 64.4°F. Water quality criteria under 18 AAC 70.020 issued by the Department of Environmental Conservation state that temperatures may not exceed natural temperature by 4°F and no change permitted for temperatures over 60°F.

 ? FOR PERIOD OF TIME
 ? INCREASE/UNIT TIME

This temperature increase, plus the fact that there are five other smaller streams in the Unit that would be affected by a loss of shade cover, would in our opinion have an adverse effect on the fish production of Trocadero Creek. Also, there are five other units with cutting boundaries along Trocadero Creek. The 1978 Pink Salmon Escapement into Trocadero Creek was 62,000. Commercial Fish Division considers this stream a major contributor to the District 3 and 4 catch.

Our recommendation for Unit 1 would be to drop the eastern portion of the Unit that borders the stream. This would delete approximately 3,500 feet of stream side cutting. The uphill portion of the Unit from the road could be logged along this 3,500 foot section. Selective harvest methods would be an acceptable alternative for the eastern portion of the Unit. This would allow some logging in the area, but would protect the shade producing canopy near the stream bank.

Sincerely,

Steve Haavig
Steve Haavig
Habitat Biologist

cc: John Valentine, Comm. Fish
Don Siedelman, Sport Fish
Robert Larson, Land Use

SH/dsb

*Double temp change over a period eg 9.8
And exceeds 60°F by 1.4°*

CLARK / SOUTH HERRI RIVER WARE

UNIT #1

23 SEPTEMBER 1976

STREAM #5ROAD: 25 #12 S. STREAM 19-201
(UNIT BOUNDARY TRAIL - STREAM 19-05)

THIS STREAM IS 1/4 FT WIDE, AND 6 TO 7 INCHES
DEEP WITH POOLS 12 TO 18 INCHES DEEP. ROCK STREWS
IS SAND/GRAVEL AND A LINE OF 5 TO 24 INCH
FALLS IS PRESENT. SHOCKED TWO DUCK YARDEN.

✓ EXCELLENT RESIDENT FISH HABITAT.

FLAGGED ORANGE/WHITE STRIPES ~ 500'
ABOVE UNIT BOUNDARY (~25' BELOW ROAD JUNCTION)
WHERE THERE IS A 5' FALL

TRAILED ON UNIT BOUNDARY.

RECOMMEND FILLING AND YARDING AHEAD, AND
CHUNK CLEAN UP OF FLAGGED AREA OF STREAM #5
FISH PASSAGE IS NOT REQUIRED AT ROAD CROSSING.

STREAM #6

ROAD #19
(PARALLEL SOUTHERN UNIT BOUNDARY
BEGINNING AT CORNER STATION 17+75)

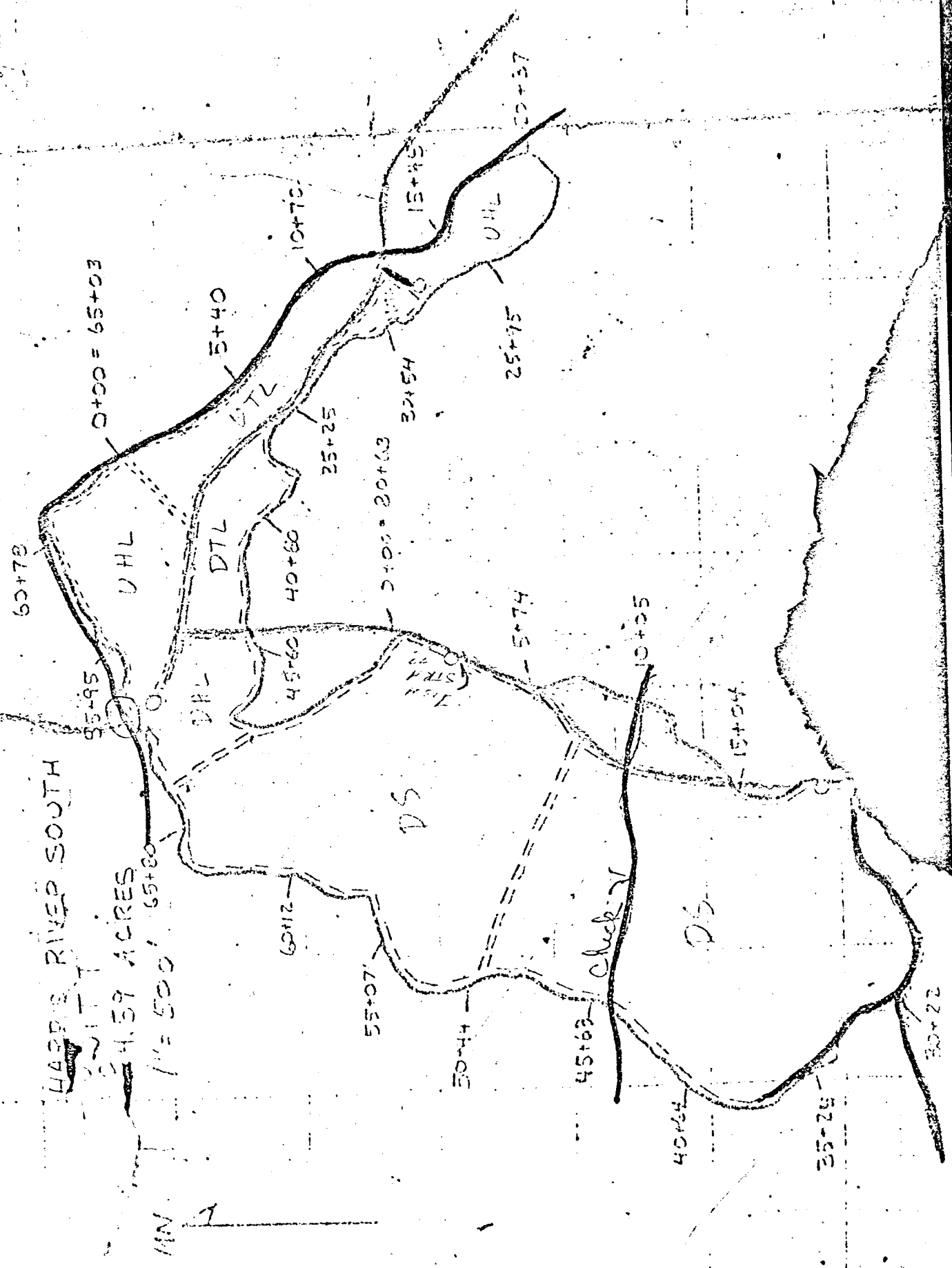
THIS STREAM FLOWS PARALLEL TO THE
SOUTHERN BOUNDARY OF THE WESTERN SIDE OF
UNIT #1 BEGINNING AT UNIT TRAILER STATION 19+75.
THE STREAM GRADIENT IS ~ 35% WITH A
20 FT FALL 500 FT ABOVE THE CORNER OF
THE UNIT BOUNDARY. NO FISH SHOCKED
IN STREAM PARALLELING THE UNIT BOUNDARY.


STREAM #6 WAS NOT FLAGGED OR TRAILED.
RECOMMEND WATER QUALITY PROTECTION,
AND FILLING AND YARDING AHEAD IF POSSIBLE.
NO FISH PASSAGE REQUIRED AT ROAD CROSSING.

HARRIS RIVER SOUTH

4.59 ACRES

1" = 500'





1997

2017

Unit 2: The Great Wall of China

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1-505

1-505